

In re Application of: Shlomo NAVARRO et al  
Serial No.: 10/816,861  
Filed: April 5, 2004  
Final Office Action Mailing Date: September 24, 2009

Examiner: Neil S. Levy  
Group Art Unit: 1615  
Attorney Docket: 25706  
Confirmation No.: 1807

### **REMARKS**

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-48 and 50-60 are in this Application. Claim 49 has been canceled in a previous response. Claims 13-48 and 50-60 have been withdrawn from consideration for being drawn to non-elected inventions. Claims 1-12 have been examined on the merits with a combination of *ar*-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue as the elected terpene species, paper as the elected substance species, and insect as the elected pest species. Claims 10-12 have been withdrawn from consideration for being drawn to non-elected species.

Claims 1-9 have been rejected under 35 U.S.C. § 103. Claims 1, 3-7, 22, 24, 25, 39 and 50 have been amended herewith. Claims 13-21, 31-38, 44-48 and 52-60 have been canceled herewith. New claims 61-64 have been added herewith. New claims 62-64 are withdrawn for depending on withdrawn claims 22, 39 and 50, respectively.

### ***Interview Summary***

Applicant wishes to thank the Examiner for his kind attention and for his helpful suggestions during the telephone Interview held on January 19, 2010.

In the Interview, Applicant described to the Examiner how the claimed composition-of-matter comprises a pest control composition which comprises at least 10 % sesquiterpene alcohol, and that the cited art (i.e., Navarro et al. and Su et al.) does not teach such a concentration of sesquiterpene alcohol and do not suggest using a sesquiterpene alcohol for pest control. The Examiner did not dispute Applicant's assertion that it is incorrect to state that Su et al. teaches a concentration of at least 10 % sesquiterpene alcohol.

Applicant asked that the Examiner clarify the statement in the Office Action expressing agreement with the European Patent Office (EPO) determination that the

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source of turmerone is important and that the instant claims are not sufficiently limiting to effective amounts as claimed, as the EPO determination Applicant believes the Examiner was referring to was explicitly limited by the EPO to embodiments lacking at least 10 % sesquiterpene alcohol, and such embodiments are outside the scope of claim 1.

The Examiner then stated that for the claims to be allowable, it would be necessary to insert a limitation describing a concentration of the ingredients in the material. The Examiner agreed to positively consider those limitations describing a concentration of the ingredients in the material which are recited in the claims of the corresponding European patent application (which claims were recently recognized as patentable).

The Examiner then stated that claim 3 would be clearer if it recited “strength of” instead of “that of”.

The Examiner then indicated that he is willing to examine the claims in their generic context, such that claims 10-12 will no longer be withdrawn, and that claims 22-30, 39-48 and 50-51 would be rejoined and allowed if amended to be in the format of claim 1. The Examiner stated that claims 13-21, 31-38 and 52-60 would not be considered for rejoinder.

The Examiner kindly agreed to examine Applicant's response after final rejection, within the current examination.

The Examiner and the Applicant have agreed to tentatively schedule an additional telephone Interview on 8:30 AM (Eastern Time) January 28, 2010, or shortly thereafter, in the event that the Examiner finds that minor amendments are still required in order to put the application in condition for allowance.

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**Amendments To The Claims**

**35 U.S.C. § 103 Rejection**

The Examiner has rejected claims 1-9 under 35 U.S.C. § 103(a) as being unpatentable over Navarro et al. in view of Su et al. The Examiner's rejection is respectfully traversed. Claims 1 and 3-7 have been amended.

Specifically, the Examiner has stated that Navarro et al. shows crude extracts effective to repel insects which do not contain an alcohol portion as high in the instant invention as claimed, and that Su et al. concentrates the alcohol from the turmeric and shows them to be repellant, thereby overcoming Applicant's arguments (filed 6/3/09) that the cited art does not teach 10 % sesquiterpene alcohol.

The Examiner also expressed agreement with the European Office determination that the source of turmerone is important and that the instant claims are not sufficiently limiting to effective amounts as claimed.

As discussed with the Examiner during the abovementioned Interview, Su et al. does not teach a concentration of 10 % sesquiterpene alcohol and the Examiner did not point to any evidence to the contrary. Hence, there is no *prima facie* case for obviousness over Navarro et al. in view of Su et al. for Applicant to rebut.

Moreover, as further discussed during the abovementioned Interview, the European Patent Office determination that Applicant believes the Examiner referred to was explicitly limited by the EPO to embodiments which are outside the scope of claim 1.

In addition, Applicant has amended the claims in order to meet all of the requirements set forth by the Examiner in the Interview, as discussed hereinbelow.

Applicant therefore respectfully requests that this rejection be withdrawn.

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### *Additional Amendments*

In the abovementioned telephone Interview, the Examiner has referred to certain amendments which should be introduced to claims 1-9, in order to render the subject matter of these claims allowable. Claims 1 and 3-7 have been amended.

Specifically, the Examiner has stated that for the claims to be allowable, it would be necessary to insert a limitation describing a concentration of the ingredients in the material.

The Examiner has further stated that claim 3 would be clearer if it recited “strength of” instead of “that of”.

In order to define a concentration of the ingredients (i.e., sesquiterpene alcohol, *ar*-turmerone and turmeric oleoresin solid residue) in the claimed composition-of-matter, claim 1 has been amended so as to recite:

*“...and wherein an amount of said pest control composition in said composition-of-matter is such that an amount of said ar-turmerone in said composition-of-matter is in a range of 0.1 g/m<sup>2</sup> to 0.5 g/m<sup>2</sup>, a total amount of said sesquiterpene alcohol in said composition-of-matter is in a range of 0.03 g/m<sup>2</sup> to 0.2 g/m<sup>2</sup>, and an amount of said turmeric oleoresin solid residue in said composition-of-matter is in a range of 0.1 g/m<sup>2</sup> to 0.5 g/m<sup>2</sup>....”*

The above amendment is supported, for example, on page 16, lines 3-8, of the instant application.

Applicant notes that the limitations now added to amended claim 1 are identical to limitations included in corresponding claims of a corresponding EP Patent Application, which have been recently recognized as allowed by the European Patent Office.

Claim 3 has been amended so as to recite “a strength of” instead of “that of”, in accordance with the Examiner’s suggestion during the abovementioned Interview.

Similarly, claims 4-7 have each been amended in a manner corresponding to the amendment to claim 3.

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Applicant wishes to note that in the field of packaging, in particular food packaging, relying on only one of repellency or antifeeding activity is problematic. A packaging material which is pest repellant will not provide a true barrier to pest infestation, if upon entering the packaging material, the pest will be able to feed and consequently continue its life cycle. Hence, in the preparation of pest-impervious packaging materials, it is desirable, in addition to the repelling effect, to stop the feeding activity of the pest.

Such a combined effect has been advantageously achieved in the present invention, by using pre-identified specific ingredients obtained from turmeric in the manufacture of packaging materials.

The components of turmeric most effective for pest control were identified, and the repellency and antifeedant effect of each of the ingredients was determined. The present inventors have surprisingly and unexpectedly uncovered that sesquiterpene alcohols exhibit both repellency and antifeedant activity, that turmeric oleoresin solid residue is an effective antifeedant, and that *ar*-turmerone is a highly effective repellent (see, for example, page 3, lines 2-7; page 11, lines 1-11 and Examples 2 and 4 in the specification).

A combination of ingredients (i.e., *ar*-turmerone, sesquiterpene alcohol and turmeric oleoresin solid residue) which exhibits both repellency activity and antifeedant activity at a desired ratio can therefore be prepared. These properties are exhibited by these components at much lower amounts compared to crude turmeric extract. Thus, it has been shown that *ar*-turmerone can be used at a concentration range of 0.1 to 0.5 g/m<sup>2</sup> (10 µg/cm<sup>2</sup> to 50 µg/cm<sup>2</sup>), sesquiterpene alcohols can be used at a concentration range of 0.03 to 0.2 g/m<sup>2</sup> (3 µg/cm<sup>2</sup> to 20 µg/cm<sup>2</sup>) and turmeric oleoresin solid residue can be used at a concentration range of 0.1 to 0.5 g/m<sup>2</sup> (10 µg/cm<sup>2</sup> to 50 µg/cm<sup>2</sup>), and even at lower concentrations (see, page 16, lines 3-8; and Examples 2 and 4). Such a use of a combination of specific compounds that exhibit repellent and antifeedant activities has never been taught hitherto.

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Applicant respectfully submits that the amendments made to claims 1-9 meet the Examiner's requirements as raised in the abovementioned Interview, and hence that claims 1-9 are allowable.

In addition, Applicant has chosen to cancel claims 13-21, 31-38, 44-48 and 52-60 without prejudice.

### ***Rejoinder***

As discussed hereinabove, the Examiner indicated during the abovementioned Interview that some of the previously withdrawn claims would be rejoined and allowed if they are amended so as to be in the format of claim 1, either by reciting the same limitations as recited in claim 1 or by depending from claim 1.

Applicant has therefore chosen to amend independent claims 22, 39 and 50 so as to be in the format of claim 1, as requested by the Examiner.

Thus, claims 22 and 50 have been amended so as to recite limitations corresponding to the limitations recited in claim 1.

In view of the amendments to claim 22, claims 24 and 25, which depend from claim 22, have been amended in accordance with the limitations recited in amended claim 22.

Thus, claim 24 has been amended so as to recite a "pest control composition which comprises said combination of *ar*-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue".

Similarly, claim 25 has been amended so as to recite "wherein said pest control composition is such that said combination of *ar*-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue is...."

Claim 39 has been amended so as to depend from claim 1 by reciting "A method of producing a composition-of-matter of claim 1" instead of "A method of producing a pest-impervious packaging material".

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In order to better accord with the language of claim 1, claim 39 has been further amended so as to recite:

*“a pest control composition comprising a combination of ar-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue, wherein an amount of said sesquiterpene alcohol in said pest control composition is at least 10 % by weight”*

as well as:

*“composition-of-matter comprising said packaging material and a pest control composition”.*

In view of the above amendments, Applicant respectfully requests that claims 22-30, 39-43, 50 and 51 be rejoined.

### ***New Claims***

New claims 61-64 have been introduced herewith. New claim 61 depends from claim 1, new claim 62 depends from claim 22, new claim 63 depends from claim 39, and new claim 64 depends from claim 50. No new matter has been introduced.

Each of claims 61-64 recites:

*“...wherein said sesquiterpene alcohol is selected from the group consisting of hinesol, agarospirol, valerianol,  $\beta$ -bisabolol,  $\alpha$ -bisabolol,  $\gamma$ -eudesmol, ar-turmerol,  $\alpha$ -copaen-11-ol, [E]-nerolidol and gossonorol, and any combination thereof.”*

New claims 61-64 are supported, for example, on page 12, lines 15-17, of the instant application. Applicant submits that “grossonorol”, as erroneously written on page 12, line 17, is an obvious-to-correct typographical error, and that it would be clear to one of skill in the art that “gossonorol” was intended.

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***Finality of Office Action***

As discussed hereinabove, the rejection of claims 1-9 under 35 U.S.C. § 103(a) as being unpatentable over Navarro et al. in view of Su et al., which is the only rejection presented in the Final Office Action issued on September 24, 2009, does not appear to have a reasonable basis in the teachings of Navarro et al. and Su et al.

Moreover, the insertion of a limitation describing a concentration of the ingredients recited in claim 1, which the Examiner has stated during the Interview of January 19, 2010, would make the claims allowable, does not have any apparent connection to the grounds for rejection presented in the Final Office Action or in any previously issued Office Action.

Consequently, the grounds for the current rejections of the claims described hereinabove have been presented to Applicant for the first time during the telephone Interview held on January 19, 2010.

Applicant therefore respectfully requests that the Examiner rescind the finality of the Office Action of September 24, 2009, in the event that the Examiner does not allow the claims submitted herewith.

In view of the above amendments and remarks it is respectfully submitted that claims 1-12, 22-30, 39-43, 50, 51 and 61-64 are now in condition for allowance. A prompt notice of allowance is respectfully and earnestly solicited.



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Applicant respectfully requests that in case the Examiner still finds that some minor amendments are required in order to put the application in condition for allowance, the Examiner will contact the undersigned so as to conduct a telephone interview as tentatively scheduled during the abovementioned Interview for 8:30 AM (Eastern Time) January 28, 2010.

Respectfully submitted,

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Date: January 25, 2010

**Enclosures:**

- Petition for Extension (One Month)
- Additional Claims Transmittal Fee